

SIDEBAR

New Definition of KTI Industries

The previous edition of this report (*Indicators 2018: Industry, Technology, and the Global Marketplace*) defined knowledge- and technology-intensive (KTI) industries based on industries with strong links to science and technology as formerly designated by the Organisation for Economic Co-operation and Development (OECD). These included five knowledge-intensive services industries grouped into commercial knowledge-intensive services (financial services, business services, and information services) and public knowledge-intensive service (education and health care), five high-technology manufacturing industries (aircraft and spacecraft; pharmaceuticals; computers and office machinery; semiconductors and communications equipment; and measuring, medical, navigation, optical, and testing instruments), and five medium-high-technology industries (motor vehicles and parts, chemicals excluding pharmaceuticals, electrical machinery and appliances, machinery and equipment, and railroad and other transportation equipment). The knowledge-intensive services industries are highly aggregated and are composed of numerous detailed industries. The high and medium-high technology manufacturing industries are less aggregated than the knowledge-intensive services industries. More information on this definition and these industries can be found in the previous edition of this report.

For *Indicators 2020*, we have adopted a new, more-focused definition of KTI industries that relies on an updated OECD industry classification based on R&D intensity. This classification represents both an update and an extension to prior OECD taxonomies; it incorporates the latest revision of the International Standard Industrial Classification (ISIC Rev. 4) and extends for the first time the R&D intensity analysis to non-manufacturing industries including a broad range of services. More information on the OECD classification is available in the **Technical Appendix** that accompanies this report.

This new definition of KTI industries includes five high R&D intensive industries and eight medium-high R&D intensive industries (Table 6-1). The five high R&D intensive industries are aircraft; computer, electronic, and optical products; pharmaceuticals; scientific R&D services; and software publishing. The eight medium-high R&D intensive industries are chemicals excluding pharmaceuticals; electrical equipment; information technology (IT) services; machinery and equipment; medical and dental instruments; motor vehicles; railroad and other transportation; and weapons. These industries have lower, but still substantial levels of R&D intensity.

While output data are based on industry categories, trade data are based on products. The trade of KTI products and services includes products and services that closely correspond to KTI industries. The definition of KTI products and services has also been adjusted to make trade data consistent with the new definition of KTI industries.

This new classification of KTI industries overlaps almost completely with the high-technology and medium-high-technology manufacturing industries in the *2018 Indicators*. It overlaps with the commercial knowledge-intensive services in three industries—IT services, software publishing, and scientific R&D services. Finally, the new classification does not overlap with the public knowledge-intensive services. The exclusion of education, health care, financial services, and most of the industries within business services explains the large difference in reported total KTI output between *Indicators 2020* and *Indicators 2018* (\$7.8 trillion compared with \$23.6 trillion in 2016, the latest year of overlap between the two editions).